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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,988	04/01/2004	Robert L. Heimann	EL023RH-1 CON	2018
7590 01/25/2006			EXAMINER	
ORSCHELN MANAGEMENT CO 2000 US HWY 63 SOUTH MOBERLY, MO 65270			MICHENER, JENNIFER KOLB	
			ART UNIT	PAPER NUMBER
			1762	
DATE MAILED: 01/25/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/816,988	Applicant(s) HEIMANN ET AL.	
	Examiner Jennifer K. Michener	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The rejection of claims 1-19 under 35 U.S.C. 112, first paragraph has been withdrawn based on Applicant's amendments.

The following new 112 rejections is made:

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-19 and 21-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 21 now require the "substrate" to be free of chromates. Examiner notes that the instant specification requires that the final article to be free of chromate, not the pre-treated substrate of the preamble.

Claims 1 and 21 now require rinsing the treated surface and also that the method is free of chromates. The original claims required only that the medium was chromate-free or that the process of preparing, contacting, and removing was chromate-free. In the instant specification, it is clear only that the final treated article is chromate-free and that

only the process of the electrolytic or electroless bath portion of the process is encompassed as "chromate-free". The rinse step of Applicant is stated to be a post-treatment step of the inventive process, i.e., it is not part of the inventive process that is said to be chromate-free. Further, Applicant's own disclosure allows for a chromate rinse, therefore it is obvious that the rinsing step is not considered to be part of the "chromate-free" portion of the inventive process.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-2, 4-12, 15-16, 18-19, and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Maurer et al. (US 3,444,007).

Examiner maintains the rejection of the previous office action.

Additionally, regarding the newly-added limitations in claim 1, Maurer teaches a rinsing step. Examiner notes that Applicant defines "free of chromates" in his specification to require less than 5% chromates present in a process. First, Examiner asserts that the method step disclosed by Applicant does not include the rinsing step and therefore the inventive method steps of Maurer which meet Applicant's claims occur *prior to* the chromate rinsing step. Even if Maurer's chromate rinse were to be part of the inventive process, Examiner notes that the chromate rinse of Maurer is so dilute that it would not trigger Applicant's threshold of less than 5% (col. 4, line 11).

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Regarding newly added claims, Maurer teaches the drying temperature of claim 22 as outlined in previous office actions. Maurer teaches the use of sodium molybdate or cerium nitrate and the use of a zinc substrate (col. 1, line 16; Table III; Table IV). Sodium stannate is taught in the previous office action regarding claim 8.

5. The rejection of claim 20 under 35 U.S.C. 102(b) as being anticipated by Nakatsugawa (4,386,139) is maintained. The rejection of claim 21 has been withdrawn in favor of the 103 rejections, below.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The following new rejection is made over Nakatsugawa:

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsugawa.

Regarding the substrate material added to claim 21, Nakatsugawa teaches treating conductive printed circuit board materials, such as copper foil. Applicant's specification teaches that iron, tin, aluminum, and zinc are commonly used as such and that any conductive metal or non-metal substrate with a conductive layer thereon can be used in the instant method. Additionally, Examiner notes that it is well-known in the art that printed circuit boards contain a conductive metal core of aluminum, iron, nickel, zinc or

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copper foil. It would have been obvious to one of ordinary skill in the art to use zinc, aluminum, iron, or tin, as claimed, as the conductive printed circuit board substrate material in the method of Nakatsugawa with the expectation of successful results.

8. Claim 13, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurer et al.

Examiner maintains the rejection of claims 13, 17, and 21 for the reasons outlined in the previous office action and above.

9. Claims 1, 3-5, 8-13, 15, 17, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanagata et al.

Examiner maintains the rejection.

Regarding a step of rinsing the surface, it is Examiner's position that rinsing a surface after a bath coating operation would have been obvious to one of ordinary skill in the art. Specifically, Hanagata's invention allowed localized coating within a bath. It would have been obvious to rinse off the unreacted coating materials of Hanagata to clean the finished product prior to sale.

10. Claims 10, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanagata et al. in view of Nakatsugawa.

Examiner maintains the rejection.

Response to Arguments

11. Applicant's arguments filed 11/4/2005 have been fully considered but they are not persuasive.

Applicant's arguments in regard to Maurer have been addressed in the rejection above.

Applicant argues that Nakatsugawa is limited to treating copper foil so it cannot anticipate claims 20-21, which now exclude copper as a substrate. The rejection of claim 21 is now under 35 USC 103. Claim 20 does not exclude the use of copper.

Applicant argues that Maurer teaches that there is no particular advantage of using larger quantities of metal ions and therefore there is no reason to try such amounts. Examiner disagrees.

Maurer et al. teaches that "Good results have also been obtained from high concentration of the metal ion or ions" (col. 2, line 70 to col. 3, line 5) and, as outlined previously, an ordinary artisan would have determined the optimum metal ion concentration through routine experimentation in the absence of a showing of criticality. Furthermore, Maurer's statement that good, non-detrimental results are obtained with higher concentrations provides a teaching that, in fact, higher concentrations have been used. There is a teaching of the higher concentrations.

Applicant argues that Hanagata does not teach a rinsing step so that it cannot anticipate the claims.

Examiner notes that the rejection was made under 103, not 102. Additionally, the new limitation has been addressed above.

Applicant argues that Hanagata and Nakatsugawa are non-analogous.

Examiner notes that Nakatsugawa is cited merely to teach an appropriate specific vanadate salt suitable for coating copper, as required by Hanagata, and that current in the aqueous immersion tank of Hanagata is a suitable alternative method of deposition of the same salt onto the same substrate.

Conclusion

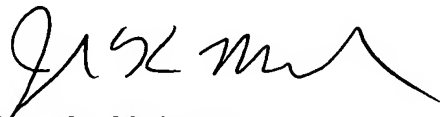
12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer K. Michener whose telephone number is (571) 272-1424. The examiner can normally be reached on Mondays & on Tuesday and Wednesday afternoons.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Michener
Primary Examiner
AU 1762
January 22, 2006